

Amendments to the Claims

1. **(Currently Amended)** A printer ~~to be connected~~ for connecting to a host information processor via a ~~given~~ communication medium, the printer comprising:

printer language specifications storage means for storing, under the control of an operating system operable on ~~said the~~ host information processor, printer language specifications which ~~indicates~~ indicate a correspondence between a plot object forming application print data generated at printing by an application operable on the host information processor and a printer language for printing the plot object on the printer;

printer language specifications setting data generation means for reading ~~said the~~ printer language specifications from said printer language specifications storage means to generate printer language specifications setting data predetermined therefor;

language specifications setting data transmission processing start means for outputting ~~said the~~ printer language specifications setting data generated by said printer language specifications setting data generation means with a predetermined timing; and

bi-directional communication means for receiving ~~said the~~ printer language specifications setting data for transmission to ~~said the~~ host information processor.

2. **(Currently Amended)** A printer ~~to be connected~~ for connecting to a host information processor via a ~~given~~ communication medium, the printer comprising:

control language specifications storage means for storing, under the control of an operating system operable on ~~said the~~ host information processor, control language specifications which ~~indicates~~ indicate a correspondence between a control element forming application print data generated at printing by an application operable on the host information processor and a control language for ~~printing the plot object~~ setting the control element on the printer;

control language specifications setting data generation means for reading ~~said the~~ control language specifications from said control language specifications storage means to generate control language specifications setting data predetermined therefor;

language specifications setting data transmission processing start means for outputting—~~said~~ the control language specifications setting data generated by said control language specifications setting data generation means with a predetermined timing; and

bi-directional communication means for receiving—~~said~~ the control language specifications setting data for transmission to—~~said~~ the host information processor.

3. **(Currently Amended)** The printer as claimed in claim 1, further comprising control language generation means for converting—~~said~~ the printer language specifications setting data generated by said printer language specifications setting data generation means into control language data in a predetermined format for output to said language specifications setting data transmission processing start means, wherein

A₁ said language specifications setting data transmission processing start means outputs the control language data received from said control language generation means to said bi-directional communication means with a predetermined timing.

4. **(Currently Amended)** The printer as claimed in claim 2, further comprising control language generation means for converting—~~said~~ the control language specifications setting data generated by said control language specifications setting data generation means into control language data in a predetermined format for output to said language specifications setting data transmission processing start means, wherein

said language specifications setting data transmission processing start means outputs the control language data received from said control language generation means to said bi-directional communication means with a predetermined timing.

5. **(Currently Amended)** The printer as claimed in claim 1, further comprising communication data determination means for determining—~~the~~ a type of communication data received from—~~said~~ the host information processor via said bi-directional communication means, wherein

when—~~said~~ the communication data is data asking for—~~said~~ the printer language specifications setting data, said communication data determination means instructs said

printer language specifications setting data generation means to generate ~~said~~ the printer language specifications setting data.

6. **(Currently Amended)** The printer as claimed in claim 2, further comprising communication data determination means for determining ~~the~~ a type of communication data received from ~~said~~ the host information processor via said bi-directional communication means, wherein

when ~~said~~ the communication data is data asking for ~~said~~ the control language specifications setting data, said communication data determination means instructs said control language specifications setting data generation means to generate ~~said~~ the control language specifications setting data.

7. **(Currently Amended)** The printer as claimed in claim 5, further comprising control language interpretation means for further interpreting the predetermined control language data determined by said communication data determination means, wherein

when ~~said~~ the printer language specifications setting data in the format of ~~said~~ the control language data is asked for, said control language interpretation means instructs said printer language specifications setting data generation means to generate ~~said~~ the printer language specifications setting data.

8. **(Currently Amended)** The printer as claimed in claim 6, further comprising control language interpretation means for further interpreting the predetermined control language data determined by said communication data determination means, wherein

when ~~said~~ the control language specifications setting data in the format of ~~said~~ the control language data is asked for, said control language interpretation means instructs said control language specifications setting data generation means to generate ~~said~~ the control language specifications setting data.

9. **(Currently Amended)** The printer as claimed in claim 1, further comprising error detection means for specifying, when an error is observed on the printer, a printer

language command-caused causing the error (~~hereinafter, referred to as~~ an error causing command), and

control language generation means for generating control language data in a predetermined format according to ~~said~~ the error causing command for output to said bi-directional communication means.

10. **(Currently Amended)** The printer as claimed in claim 2, further comprising error detection means for specifying, when an error is observed on the printer, a control language command-caused causing the error (~~hereinafter, referred to as~~ an error causing command), and

control language generation means for generating control language data in a predetermined format according to ~~said~~ the error causing command for output to said bi-directional communication means.

11. **(Currently Amended)** The printer as claimed in claim 1, further comprising error detection means for specifying, when an error is observed on the printer, a printer language command-caused causing the error (~~hereinafter, referred to as~~ an error causing command), and

language specifications update means for updating, according to ~~said~~ the error causing command, ~~said~~ the printer language specifications stored in said printer language specifications storage means to prevent ~~said~~ the host information processor from using ~~said~~ the error causing command.

12. **(Currently Amended)** The printer as claimed in claim 2, further comprising error detection means for specifying, when an error is observed on the printer, a control language command-caused causing the error (~~hereinafter, referred to as~~ an error causing command), and

language specifications update means for updating, according to ~~said~~ the error causing command, ~~said~~ the control language specifications stored in said control language specifications storage means to prevent ~~said~~ the host information processor from using ~~said~~ the error causing command.

13. **(Currently Amended)** The printer as claimed in claim 3, further comprising printer settings change means for notifying said control language generation means of ~~the~~ details of a setting change made by a user on the printer, wherein

said control language generation means generates ~~said~~ the control language data indicating ~~said~~ the notified details of the setting change for output to said language specifications setting data transmission processing start means.

14. **(Currently Amended)** The printer as claimed in claim 4, further comprising printer settings change means for notifying said control language generation means of ~~the~~ details of a setting change made by a user on the printer, wherein

181 said control language generation means generates ~~said~~ the control language data indicating ~~said~~ the notified details of the setting change for output to said language specifications setting data transmission processing start means.

15. **(Currently Amended)** The printer as claimed in claim 11, further comprising printer settings change means for notifying said language specifications update means of ~~the~~ details of a setting change made by a user on the printer, wherein

said language specifications update means updates ~~said~~ the printer language specifications according to ~~said~~ the notified details of the setting change.

16. **(Currently Amended)** The printer as claimed in claim 12, further comprising printer settings change means for notifying said language specifications update means of ~~the~~ details of a setting change made by a user on the printer, wherein

said language specifications update means updates ~~said~~ the printer language specifications according to ~~said~~ the notified details of the setting change.

17. **(Currently Amended)** The printer as claimed in claim 3, further comprising device change detection means for notifying said control language generation means of ~~the~~ details of a structural change made by a user on the printer, wherein

said control language generation means generates ~~said~~ the control language data which indicates ~~said~~ the notified details of the structural change for output to said language specifications setting data transmission processing start means.

18. **(Currently Amended)** The printer as claimed in claim 4, further comprising device change detection means for notifying said control language generation means of ~~the~~ details of a structural change made by a user on the printer, wherein

said control language generation means generates ~~said~~ the control language data which indicates ~~said~~ the notified details of the structural change for output to said language specifications setting data transmission processing start means.

19. **(Currently Amended)** The printer as claimed in claim 11, further comprising device change detection means for notifying said language specifications update means of ~~the~~ details of a structural change made by a user on the printer, wherein

said language specifications update means updates ~~said~~ the printer language specifications according to ~~said~~ the notified details of the structural change.

20. **(Currently Amended)** The printer as claimed in claim 12, further comprising device change detection means for notifying said language specifications update means of ~~the~~ details of a structural change made by a user on the printer, wherein

said language specifications update means updates ~~said~~ the printer language specifications according to ~~said~~ the notified details of the structural change.

21. **(Currently Amended)** A printer driver provided in a host information processor ~~to be connected~~ for connecting to a printer via a ~~given~~ communication medium, the printer driver comprising:

bi-directional communication means for receiving communication data from ~~said~~ the printer;

communication data determination means for determining, under ~~the~~ control of an operating system operable on ~~said~~ the host information processor, whether or not the communication data received by said bi-directional communication means is printer

language specifications setting data which indicates; a correspondence between a plot object forming application print data generated at printing by an application operable on the host information processor and a printer language for printing the plot object on the printer;

printer language specifications setting means for registering printer language specifications according to ~~said the~~ printer language specifications setting data determined by said communication data determination means;

printer settings storage means for storing ~~said the~~ printer language specifications according to the ~~registration processing~~ registering carried out by said printer language specifications setting means; and

printer language generation means for obtaining, according to the application print data at printing, ~~said the~~ printer language corresponding to the plot object from said printer settings storage means to generate printer language print data for transmission to ~~said the~~ printer via said bi-directional communication means.

22. **(Currently Amended)** A printer driver provided in a host information processor ~~to be connected~~ for connecting to a printer via a ~~given~~ communication medium, the printer driver comprising:

bi-directional communication means for receiving communication data from ~~said the~~ printer;

communication data determination means for determining, under ~~the~~ control of an operating system operable on ~~said the~~ host information processor, whether or not the communication data received by said bi-directional communication means is control language specifications setting data which indicates; a correspondence between a control element forming application print data generated at printing by an application operable on the host information processor and a control language for setting the control element on the printer;

control language specifications setting means for registering control language specifications according to ~~said the~~ control language specifications setting data determined by said communication data determination means;

printer settings storage means for storing ~~said~~ the control language specifications according to the ~~registration processing~~ registering carried out by said control language specifications setting means; and

control language generation means for obtaining, according to the application print data at printing, ~~said~~ the control language corresponding to the control element from said printer settings storage means to generate control language print data for transmission to ~~said~~ the printer via said bi-directional communication means.

23. **(Currently Amended)** The printer driver as claimed in claim 21, further comprising control language interpretation means for further interpreting the ~~predetermined control language~~ printer language specifications setting data determined by said communication data determination means, wherein

A, when ~~said~~ the printer language specifications setting data is in a format of ~~said~~ control language data, said control language interpretation means instructs said printer language specifications setting means to register ~~said~~ the printer language specifications.

24. **(Currently Amended)** The printer driver as claimed in claim 22, further comprising control language interpretation means for further interpreting the ~~predetermined control language~~ control language specifications setting data determined by said communication data determination means, wherein

when ~~said~~ the control language specifications setting data is in a format of ~~said~~ control language data, said control language interpretation means instructs said control language specifications setting means to register ~~said~~ the control language specifications.

25. **(Currently Amended)** The printer driver as claimed in claim 21, further comprising printer setting data request generation means for generating requesting data asking ~~said~~ the printer for transmission of ~~said~~ the printer language specifications setting data, and transmitting the ~~same~~ requesting data to said bi-directional communication means.

26. **(Currently Amended)** The printer driver as claimed in claim 22, further comprising printer setting data request generation means for generating requesting data asking ~~said~~

the printer for transmission of ~~said the~~ control language specifications setting data, and transmitting the ~~same~~ requesting data to said bi-directional communication means.

27. **(Currently Amended)** The printer driver as claimed in claim 21, wherein ~~said the~~ printer language specifications stored in said printer settings storage means ~~is~~ are provided with, in addition to the correspondence between ~~said the~~ plot object and ~~said the~~ printer language, link information indicating whether or not there is ~~an other~~ another plot object ~~being~~ equivalent in drawing to ~~said the~~ plot object,

the printer device further comprises printer error information registration means for registering in said printer settings storage means, according to a printer language command causing an error observed on ~~said the~~ printer (hereinafter, referred to as an error causing command), printer error information which indicates a plot object using the error causing command that causes an the error at printing ~~is further provided~~, and

Ac said printer language generation means refers to ~~said the~~ printer error information and ~~said the~~ link information stored in said printer settings storage means, and then replaces the plot object causing the error on ~~said the~~ printer with ~~an other~~ another plot object linked thereto for generation of ~~said the~~ printer language print data.

28. **(Currently Amended)** The printer driver as claimed in claim 22, wherein ~~said the~~ control language specifications stored in said printer settings storage means ~~is~~ are provided with, in addition to the correspondence between ~~said the~~ control element and ~~said the~~ control language, link information indicating whether or not there is ~~an other~~ another control element ~~being~~ equivalent to ~~said the~~ control element,

the printer device further comprises printer error information registration means for registering in said printer settings storage means, according to a control language command causing an error observed on ~~said the~~ printer (hereinafter, referred to as an error causing command), printer error information which indicates a control element using the error causing command that causes the an error at printing ~~is further provided~~, and

said control language generation means refers to ~~said the~~ printer error information and ~~said the~~ link information stored in said printer settings storage means, and then

replaces the control element causing the error on ~~said the~~ printer with ~~an other~~ another control element linked thereto for generation of ~~said the~~ control language print data.

29. **(Currently Amended)** The printer driver as claimed in claim 27, wherein, when ~~said the~~ printer error information is provided from ~~said the~~ printer, said communication data determination means further determines the printer error information received via said bi-directional communication means for output to said printer error information registration means.

30. **(Currently Amended)** The printer driver as claimed in claim 28, wherein, when ~~said the~~ printer error information is provided from ~~said the~~ printer, said communication data determination means further determines the printer error information received via said bi-directional communication means for output to said printer error information registration means.

31. **(Currently Amended)** The printer driver as claimed in claim 29, further comprising control language interpretation means for further interpreting the printer language specifications setting data determined by said communication data determination means, wherein,

_____ when ~~said the~~ printer error information provided from ~~said the~~ printer is in ~~the~~ a format of ~~the~~ control language data, said control language interpretation means further interprets the control language data to extract ~~said the~~ printer error information therefrom for output to said printer error information registration means.

32. **(Currently Amended)** The printer driver as claimed in claim 30, further comprising control language interpretation means for further interpreting the control language specifications setting data determined by said communication data determination means, wherein,

_____ when ~~said the~~ printer error information provided from ~~said the~~ printer is in ~~the~~ a format of ~~the~~ control language data, said control language interpretation means further

interprets the control language data to extract ~~said~~ the printer error information therefrom for output to said printer error information registration means.

33. **(Currently Amended)** The printer driver as claimed in claim 21, further comprising, ~~when information in said printer settings storage means is set or updated,~~ data for printer settings display generation means for, when information in said printer settings storage means is set or updated, reading the information to generate display data corresponding thereto, and

printer settings display means for performing information display by ~~means of~~ an arbitrary display medium according to ~~said~~ the display data generated by said data for printer settings display generation means.

34. **(Currently Amended)** The printer driver as claimed in claim 22, further comprising, ~~when information in said printer settings storage means is set or updated,~~ data for printer settings display generation means for, when information in said printer settings storage means is set or updated, reading the information to generate display data corresponding thereto, and

printer settings display means for performing information display by ~~means of~~ an arbitrary display medium according to ~~said~~ the display data generated by said data for printer settings display generation means.

35. **(Currently Amended)** A printer driver program recorded on a recording medium ~~on which a printer driver program~~ to be run on a computer device ~~is recorded~~ for realizing an operational environment on the computer device, the printer driver program being operable to cause the computer device to: ~~comprising the steps of:~~

receive ~~receiving~~ communication data from a printer;

determine, ~~determining,~~ under the control of an operating system operable on a host information processor, whether or not ~~said~~ the communication data is printer language specifications setting data which indicates a correspondence between a plot object forming application print data generated at printing by an application operable on the host information processor and a printer language for printing the plot object on the printer;

~~register~~ registering printer language specifications according to ~~said~~ the determined printer language specifications setting data; and

~~generate,~~ generating, with the application print data at printing, printer language print data for transmission to ~~said~~ the printer according to ~~said~~ the printer language corresponding to ~~said~~ the registered plot object.

36. **(Currently Amended)** A printer driver program recorded on a recording medium ~~on which a printer driver program to be run on a computer device is recorded~~ for realizing an operational environment on the computer device, the printer driver program operable to cause the computer device to ~~comprising the steps of:~~

~~receive~~ receiving communication data from a printer;

~~determine,~~ determining, under the control of an operating system operable on a host information processor, whether or not ~~said~~ the communication data is control language specifications setting data which indicates a correspondence between a control element forming application print data generated at printing by an application operable on the host information processor and a control language for setting the control element on the printer;

~~register~~ registering control language specifications according to ~~said~~ the determined control language specifications setting data; and

~~generate,~~ generating, with the application print data at printing, control language print data for transmission to ~~said~~ the printer according to the correspondence between ~~said~~ the registered control element and ~~said~~ the control language.

37. **(Currently Amended)** The ~~recording medium~~ printer driver program as claimed in claim 35, further operable to cause the computer device to ~~comprising the step of further interpreting~~ interpret the printer language specifications ~~predetermined control language setting data determined in said determination step operation,~~ wherein

when ~~said~~ the printer language specifications setting data is in a format of said control language data, ~~said~~ the printer language specifications ~~is~~ are registered in said interpretation step operation.

38. (Currently Amended) The ~~recording-medium~~ printer language program as claimed in claim 36, ~~further comprising the step of further interpreting operable to cause the computer device to interpret the predetermined control language printer language specifications setting data determined in said determination-step operation~~, wherein

when ~~said the~~ control language specifications setting data is in a format of ~~said the~~ control language data, ~~said the~~ control language specifications ~~is~~ are registered in said interpretation-step operation.

39. (Currently Amended) The printer driver program ~~recording-medium~~ as claimed in claim 35, ~~further comprising the step of generating and transmitting operable to cause the computer device to generate and transmit requesting data asking said the printer for transmission of said the printer language specifications setting data.~~

40. (Currently Amended) The ~~recording-medium~~ printer driver program as claimed in claim 36, ~~further comprising the step of generating and transmitting operable to cause the computer device to generate and transmit requesting data asking said the printer for transmission of said the control language specifications setting data.~~

41. (Currently Amended) The ~~recording-medium~~ printer driver program as claimed in claim 35, wherein ~~said the~~ registered printer language specifications ~~is~~ are provided, in addition to the correspondence between ~~said the~~ plot object and ~~said the~~ printer language, with link information which indicates whether or not there is ~~an other~~ another plot object being equivalent in drawing to ~~said the~~ plot object,

the printer driver program is further operable to register ~~step of registering~~, according to a printer language command causing an error observed on ~~said the~~ printer (hereinafter, referred to as an error causing command), printer error information which indicates that a plot object using the error causing command causes ~~an the~~ error at printing ~~is further provided~~, and

~~in said generation-step operation refers to, said the~~ registered printer error information and ~~said the~~ link information ~~are referred to~~, and then replaces the plot object

causing the error on ~~said the~~ printer is replaced with ~~an other~~ another plot object linked thereto to generate ~~said the~~ printer language print data.

42. **(Currently Amended)** The printer driver program ~~recording medium~~ as claimed in claim 36, wherein ~~said the~~ registered control language specifications is provided, in addition to the correspondence between ~~said the~~ control element and ~~said the~~ control language, with link information which indicates whether or not there is ~~an other~~ another control element ~~being~~ equivalent to ~~said the~~ control element,

A, the printer driver program is further operable to ~~register step of~~ registering, according to a control language command causing an error observed on ~~said the~~ printer (hereinafter, referred to as an error causing command), printer error information which indicates a control element using the error causing command causes ~~an the~~ error at printing ~~is further provided~~, and

~~in said generation step operation~~ refers to ~~the, said~~ registered printer error information and ~~said the~~ link information ~~are referred to~~, and then replaces the control element causing the error on ~~said the~~ printer ~~is replaced with an other~~ another control element linked thereto to generate ~~said the~~ control language print data.

43. **(Currently Amended)** The printer driver program ~~recording medium~~ as claimed in claim 41, wherein, when ~~said the~~ printer error information is provided from ~~said the~~ printer, in said ~~determination step operation~~, the printer error information is further determined.

44. **(Currently Amended)** The ~~recording medium~~ printer device program as claimed in claim 42, wherein, when ~~said the~~ printer error information is provided from ~~said the~~ printer, in said ~~determination step operation~~, the printer error information is further determined.

45. **(Currently Amended)** The printer driver program ~~recording medium~~ as claimed in claim 43, further operable to cause the computer device to interpret the printer language specifications setting data determined in said determination operation, wherein,

_____ when ~~said~~ the printer error information provided from ~~said~~ the printer is in ~~the~~ a format of ~~said~~ control language data, ~~in~~ said interpretation ~~step~~, operation further interprets the control language data ~~is further interpreted~~ to extract ~~said~~ the printer error information therefrom.

46. (Currently Amended) The ~~recording medium~~ printer driver program as claimed in claim 44, further operable to cause the computer device to interpret the printer language specifications setting data determined in said determination operation, wherein,

_____ when ~~said~~ the printer error information provided from ~~said~~ the printer is in ~~the~~ a format of ~~said~~ control language data, ~~in~~ said interpretation ~~step~~ operation further interprets, the control language data ~~is further interpreted~~ to extract ~~said~~ the printer error information therefrom.

47. (Currently Amended) The ~~recording medium~~ printer driver program as claimed in claim 35, further ~~comprising the steps of~~ operable to cause the computer device to:

~~generating~~ generate, when ~~said~~ registered information is set or updated, display data corresponding to the information after reading the ~~same~~ information as appropriate; and

~~performing~~ perform information display by ~~means of~~ an arbitrary display medium according to ~~said~~ the display data.

48. (Currently Amended) The ~~recording medium~~ printer driver program as claimed in claim 36, further operable to cause the computer device to comprising the steps of:

~~generating~~ generate, when ~~said~~ registered information is set or updated, display data corresponding to the information after reading the ~~same~~ information as appropriate, and

~~performing~~ perform information display by ~~means of~~ an arbitrary display medium according to ~~said~~ the display data.